Plantwide Applicability Limits

NSR Retooling Team

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Issues to Address

- 7. Emissions Baseline
- 8. Addition of New Units
- 9. Length of PAL
- 10. Relaxation of past avoidance limits
- 11. PAL Renewal and Expiration
- 12. Ambient air quality effects of PAL

Common Interests

- Clarity/Bright Line
- Operational flexibility
- Include minor sources
- Reduce administrative burden
- Improve consistency
- Make programs usable for business
- Protect public health, specifically improve air resources in nonattainment areas, and protect increment

Review of EPA's PAL

- An alternative approach for determining major NSR applicability.
- A PAL is an annual (facility-wide) emission limitation (12-month rolling total, rolled monthly) under which the facility can make any changes without triggering NSR review for that pollutant.
  - Pollutant-specific
  - 10-year term

EPA PAL - Establishing a PAL

- Determine baseline actual emissions for all existing emissions units using the same consecutive 24-month period for all units. (However, you may add the PTE for any emissions unit that was added to the major stationary source after the selected 24-month period);
- Add the pollutant-specific significant emissions rate to the baseline actual emissions for the PAL pollutant;
- Subtract any emissions from emissions units that operated during the 24-month period and have since been permanently shut down; and
- Establish a step-down PAL if there are any requirements that have an effective date during the term of the PAL.

EPA PAL - Reopening PAL permits

- Reviewing Authority shall reopen the PAL permit to:
  - Correct typographical or calculation errors made in settling the PAL.
  - Reduce the PAL to create emissions reductions for offset purposes.
  - Revise the PAL to reflect an increase in the PAL.
- Reviewing Authority may reopen the PAL permit to:
  - Reduce the PAL to reflect newly applicable Federal requirements with compliance dates after the PAL effective date
  - Reduce the PAL consistent with any other requirement that the State may impose under its SIP
  - Reduce the PAL if it determines that a reduction is necessary to avoid causing or contributing to a NAAQS or PSD increment violation.

EPA PAL - Increasing a PAL

- Allowed if the increased emissions cannot be accommodated under the PAL, even if all significant and major emissions units were to meet a BACT level of control.
- Emissions units causing the need for an increase (modified or new units) must go through major NSR.
- New PAL based on sum of:
  - Baseline actual emissions of small emissions units;
  - Baseline actual emissions of significant and major emissions units assuming a BACT level of control; and
  - Allowable emissions of new or modified emissions units.

EPA PAL - PAL Renewal

- If baseline actual emissions plus significant level are ≥ 80% of current PAL, then PAL may be renewed at current level.
- If baseline actual emissions plus significant level are ≤ 80% then:
  - PAL may be established at a level that is more representative of baseline actual emissions, or a level that is appropriate based on air quality needs or other considerations.
- The new PAL level cannot be higher than the existing PAL (unless PAL increase provisions are met) or the PTE of the source.

EPA PAL - PAL Expiration

- Within the timeframe specified for PAL renewals, the source shall submit a proposed allocation to each emissions unit.
- The PA shall decided whether and how the PAL will be distributed and issue a revised permit incorporating allowable limits for each emissions unit.
- Any subsequent physical or operational change at the source will be subject to major NSR review.

EPA PAL - PAL Monitoring Requirements

- PAL permit must contain enforceable requirements to determine plantwide emissions (12-month rolling total, rolled monthly).
- A source may use any of the following approaches:
  - Mass balance calculations for activities using solvents or coatings
  - Continuous Emissions Monitoring Systems (CEMS)
  - Continuous Parameter Monitoring Systems (CPMS) or Predictive Emissions Monitoring Systems (PEMS).
  - Emissions Factors.
- If no monitoring data exists for an emissions unit for a time period, the source owner must report the maximum potential emissions without considering enforceable or operating emissions limitations.

Wisconsin PAL must…

- Provide flexibility
- Reduce administrative burden
- Provide consistency
- Address minor source review requirements
- Be protective of public health and environmental standards

DNR Proposed PAL

- NSR Pollutant specific
- Initially established using 12 month average over 24 month period in previous 10 years plus significant threshold
- Valid for 10 years
- Included and implemented through Title V permit

DNR Proposed PAL - 2

- Emissions installed or modified after baseline period are included in PAL by either:
  - using actual emissions by using 12 month period in 24 months of operation, if 2 years of normal operations data exists; or
  - using potential emissions if less than 2 years of normal operations data exists

DNR Proposed PAL - 3

- Emissions units existing in baseline, but since removed must be subtracted from baseline.
- PAL adjustments up allowed for new or modified units if NSR applied.
- PAL adjusted down for new rules or at source request for offset purposes

DNR Proposed PAL - 4

- At the end of the PAL term (10 years), plant must achieve a level of emissions equivalent to BACT levels for significant units using production rates from baseline period. Small units maintain their emission rate. Significant threshold added to total.
- Emission Units with avoidance caps can either maintain cap or be treated as significant unit

DNR Proposed PAL - 5

- PAL adjusted at end of term to new BACT level and baseline production rate plus significance threshold
- Source may opt out of PAL only at expiration or if significant units achieve BACT
- Expired PAL allocated across PAL emissions units

DNR Proposed PAL - 6

- Facilities under PAL must notify DNR of projects being undertaken under PAL and ambient air impacts of said project
- Air quality impacts and increments cannot be exceeded by project
- Following notification, source may commence with project if standards are protected - No 406 Review

How PAL Works

- 10 units all emitting VOC and significant
  - '96-97 baseline
  - production = 10000 widgets per year in baseline per unit
  - emissions = 10 pounds per widget
  - PAL = 10000 widgets per unit * 10 units * 10 pounds per widget = 500 TPY + 40 TPY = 540 TPY
  - BACT = 5 pounds per widget
  - End of PAL limit = 10000 widgets per unit * 10 units * 5 pounds per widget + 40 TPY = 290 TPY

How the PAL works - 2

- Units 1-3 in baseline and significant (10 pound per widget @ 10,000 widgets per year act)
- Unit 4 in baseline but removed (10 pound per widget @ 10,000 widgets per year act)
- Unit 5 installed and began normal operations in '99 (10 pounds per widget @ 10,000 widgets per year)
- Unit 6 installed in ' 03 - (PTE = 10 pounds per widget @ 20,000 widgets per year)
- Unit 7 in baseline under 39 TPY cap (10 pound per widget @ 7,000 widgets per year act)
- Unit 8 in baseline under 39 TPY cap (10 pounds per widget @ 3,000 widgets per year act)
- Units 9-10 in baseline, PTE 20 TPY each (10 pounds per widget @ 1,000 widgets per year each act)

How the PAL Works - 3

- Baseline equals

1-3	10 lb/wid * 10,000 wid/yr * 3 units = 150
4	NA removed
5	10 lb/wid * 10,000 wid/yr = 50 TPY
6	10 lb/wid * 20,000 wid/yr = 100
7	Remove cap => 10 lb/wid * 7,000 wid/yr = 35
8	Keep cap => 10 lb/wid * 3,000 wid/yr = 15
9-10	Insignif units => 10 lb/wid * 1,000 wid/yr * 2 units = 10 TPY

- Baseline = 150 + 50 + 50 + 100 + 35 + 15 + 10 + 40 = 450

How the PAL Works - 4

- End of PAL limit (s - significant unit, i - insignificant)
  - 1-3 s 5 lb/wid * 10,000 wid/yr = 75
  - 4 s NA
  - 5 s 5 lb/wid * 10,000 wid/yr = 25 TPY
  - 6 s 5 lb/wid * 20,000 wid/yr = 50 TPY
  - 7 s 5 lb/wid * 7,000 wid/yr = 17.5 TPY
  - 8 i 10 lb/wid * 3,000 wid/yr = 15 TPY
  - 9-10 i 10 lb/wid * 1,000 wid/yr * 2 units = 10 TPY
- PAL 10 Year Level = 75 + 25 + 50 + 17.5 + 15 + 10 + 40 = 232.5 TPY